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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,422	05/15/2001	Markus Zumkeller	450117-03188	8953
20999	7590	04/09/2004	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			LE, LANA N	
			ART UNIT	PAPER NUMBER
			2685	

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/855,422

Applicant(s)

ZUMKELLER ET AL.

Examiner

Lana Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horvat (US 4,856,085).

Regarding claim 1, Horvat discloses an AM receiver comprising at least one IF filter 50 with a fixed IF bandwidth, characterized by at least one downconversion stage 20, 30 to shift the signal input thereto into an IF range having a variable oscillation frequency which is adjustable to detune a wanted center frequency of a wanted signal part (intermediate frequency carrier signal) from a center frequency of said at least one IF filter (F sub I) so that an unwanted signal part adjacent to said wanted signal part lies outside said fixed IF bandwidth (IF filter pass-band) (col 2, line 45 – col 3, line 26).

Horvat didn't specifically disclose an AM receiver. However, it would have been obvious to one of ordinary skill in the art to replace an FM receiver with an AM receiver in order to add information to an electronic signal and varies the signal by its height to impose information on it instead of shifting the carrier frequency to determine the message's signal content.

Regarding claim 2, Horvat further discloses a receiver according to claim 1, characterized by a baseband processing stage (120-140) which readjusts the detuned IF signal to a predetermined center frequency (col 3, lines 31-34).

Regarding claim 3, Horvat further inherently discloses a receiver according to claim 2, characterized in that said baseband processing is performed digitally.

Regarding claim 4, Horvat further discloses a receiver according to claim 1, characterized in that a down-conversion stage 130 (fig. 1) which readjusts the detuned IF signal to a predetermined center frequency.

Regarding claim 9, Horvat discloses a method to process a received signal wherein the received and eventually preprocessed AM signal gets shifted at least once into an IF range, characterized by detuning a wanted center frequency of a wanted signal part from a center frequency used during at least one IF filtering ( $F_{sub\ I}$ ) with a fixed IF bandwidth (IF filter pass-band) so that an unwanted signal part adjacent to said wanted signal part lies outside said fixed IF bandwidth (col 2, line 45 – col 3, line 26). Horvat didn't specifically disclose an AM signal. However, it would have been obvious to one of ordinary skill in the art to replace an FM signal with an AM signal in order to add information to an electronic signal and varies the signal by its height to impose information on it instead of shifting the carrier frequency to determine the message's signal content.

Regarding claim 10, Horvat further discloses a method according to claim 9, characterized by readjusting the detuned IF signal to a predetermined center frequency after said at least one IF filtering (col 3, lines 21-26).

2. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horvat (US 4,856,085) in view of Roschmann et al (US 5,305,347).

Regarding claim 5, Horvat further discloses a receiver according to claim 1, wherein Horvat discloses a digital receiver wherein Horvat didn't specifically disclose the receiver is characterized in that it is a digital shortwave receiver, in particular a Digital Radio Mondial receiver. Roschmann et al discloses a digital shortwave communication system (title). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have a digital shortwave in order to have a small shortwave transmission band below a certain predefined frequency as one type of standard digital radio signal transmission.

Regarding claim 11, Horvat discloses a method according to claim 9, wherein Horvat didn't specifically disclose the method is characterized in that it is used for digital shortwave reception, in particular Digital Radio Mondial reception. Roschmann et al discloses a digital shortwave communication system (title). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have a digital shortwave in order to have a small shortwave transmission band below a certain predefined frequency as one type of standard digital radio signal transmission.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horvat (US 4,856,085) in view of Dwyer (US 5,970,400).

Regarding claim 6, Horvat further discloses a receiver according to claim 1, wherein Horvat didn't specifically disclose the receiver is characterized in that said at least one IF filter is an analogue filter. Dwyer discloses an analogue filter (col 8, lines 65-67). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use an analogue filter in order to filter the analog part of the signal as is common in the digital communication system.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horvat (US 4,856,085) in view of Nash (US 6,317,589).

Regarding claim 7, Horvat further discloses a receiver according to claim 1, wherein Horvat didn't specifically disclose the receiver is characterized in that said fixed IF bandwidth is 20 kHz. Nash discloses the receiver is characterized in that said fixed IF bandwidth is 20 kHz (col 3, lines 4-20). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have a predefined bandwidth for the IF in order to be compatible with a radio telephone operating in an analogue radio telephone system.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horvat (US 4,856,085) in view of Carpe et al (US 4,509,206).

Regarding claim 8, Horvat further discloses a receiver according to claim 1, wherein Horvat didn't further disclose the receiver is characterized in that said unwanted signal part is detected by analyzing the power of FFT carriers outside the wanted signal part, BER fine tuning in a digital baseband processing or during optimization of an Automatic Gain Control voltage. Carpe et al discloses the receiver is characterized in

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that said unwanted signal part is detected by analyzing the power of FFT carriers outside the wanted signal part, BER fine tuning in a digital baseband processing or during optimization of an Automatic Gain Control voltage (col 4, lines 39-60). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to detect the unwanted signal during optimization of an AGC voltage in order to avoid adding the detected voltage of the unwanted signal to the optimal gain control voltage of the AGC amplifier.

### ***Conclusion***

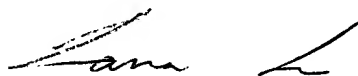
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana Le whose telephone number is 703-308-5836.

The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

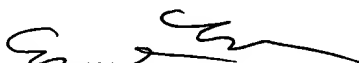
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lana Le

March 22, 2004



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